

**Amendments to the Specification:**

Please make the changes shown below to line 25 of page 14.

Although the drawings do not show gridcell nodes, persons skilled in the art would understand that each gridcell would have a node. In simulation operations, flow of fluid between gridcells would be assumed to take place between gridcell nodes, or, stated another way, through inter-node connections. In practicing the method of this invention, the invaded region of a given gridcell (region 16 of Figs. 3 and 4) is connected to invaded regions of gridcells adjacent to the given gridcell, and the resident regions of a given gridcell (region 17 of Figs. ~~2~~ 3 and 4) is connected to resident regions of gridcells adjacent to the given gridcell. There are no inter-node connections between resident region 16 and invaded region 17. The inventors therefore sometimes refer to the method of this invention as the Partitioned Node Model or PNM.